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THE JOURNAL OF PHILOSOPHY

THE FORM OF PHILOSOPHICAL INTELLIGIBILITY[1]

UNDER this title I wish to call attention to an aspect of a very old and familiar problem—that of the nature of philosophy. We habitually assign to philosophy the task of "explaining" the world, or of rendering experience "intelligible." Now is it possible to specify more exactly what is involved in this requirement? What is it to explain or to render intelligible in the philosophical sense, and what is the form or logic in which philosophy can be required to attain rationality? It would seem necessary to understand as clearly and definitely as possible what type of explanation philosophy may properly be expected to furnish before any discussion is in order regarding its competency to fulfill its task, or concerning the relative value and pertinency of various systems.

The central position that the problem occupies logically is not, however, its only claim to consideration. The failure to discriminate between different forms of explanation has frequently given rise to practical misunderstandings regarding the fruitfulness and value of philosophical study itself. It would be hard to find a better illustration of the fact that discontent and disillusionment often have their sources in unreasonable expectations and impossible demands. Complaints are brought against philosophy—not merely by outsiders, but by its professed students as well—for a strange variety of reasons: because it does not give us demonstrations like mathematics, or new facts like the natural sciences, or esthetic enjoyment like poetry, or a technique for transforming education and social life in accordance with the demands of the age. Or, again, the demand is that philosophy shall furnish a statement of the most general relations of existence, analogous to but more inclusive than the fundamental principles of mathematics. Now I do not say that all these requirements are artificial and suggested merely by external analogies—though I think that some of them undoubtedly are—nor is it necessary to assume that on examination they would appear mutually inconsistent. They have been mentioned only to illustrate the variety of the demands that are made upon philosophy, and to

[1] Read before the Eastern Branch of American Philosophical Association at Vassar College, December 29, 1921.

suggest the corresponding necessity from a practical point of view of such an inquiry as is suggested by the title of this paper.

In considering this question it is helpful, I think, to make an attempt to distinguish genuine philosophical problems from those that are artificial. Of course such a distinction can not be made in any external fashion by setting up a preliminary definition. In philosophy, more than in any other type of inquiry, the formulation of the problem and its answer can never be sharply separated. To succeed in asking a reasonable question is already in some measure to see one's way to an answer. One must begin, then, by attempting to appreciate rightly the objective situation and its demands. A genuine philosophical problem is one that is objectively grounded and does not spring merely from the associatively directed fancy of a subjective interest. There must underlie it an order of experience that is already fundamentally organized in accordance with rational principles, and it is from the demands of this experience that philosophy as a consciously directed activity must proceed. It will of course be necessary to bring up for further examination and criticism principles previously received; but in doing this philosophy must rest its case upon an order of experience that is taken, at least provisionally, as reasonable and secure. Thus, while one may reasonably question the validity of any particular fact or phase of experience, one can not intelligibly question the validity of experience as a whole. The beginning of all philosophy consists in an acceptance of the world-order of our own time and civilization, and from these roots all its genuine problems spring.

These considerations when applied help to protect us against a good many pseudo-problems that are popularly supposed to be the special interest of philosophy. It is not the business of philosophy, as Lotze was fond of remarking, to prove that the world exists or to demonstrate how it is made. Philosophy has not to show us how to make a world, but to help us in understanding the actual world in which we find ourselves. The genuine problems of philosophy are natural problems, not reached by any artificial straining, but generated by the demands of a human life to know itself and to become at home in its world.

There is always a special danger that when philosophy is carried on largely by schools and schoolmen it may become artificial through too great an emphasis upon formal completeness and the requirements of technical demonstration. It would be quite in order to raise the question, "Are we Scholastics?" Scholasticism has of course its merits, and I am not arguing in favor of dilettantism, or lack of earnestness and seriousness in carrying on philosophical inquiries, but against making what is merely technical and abstract

the end and goal. It is of course to be admitted that for certain preliminary inquiries in philosophy technical methods and a rigorously defined terminology are necessary. But two things should be borne in mind: first, that such technical inquiries are a part of philosophy only in so far as they directly or indirectly throw light upon some genuine problem, and, secondly, that the philosopher by profession is not thereby set apart from his fellows and dedicated to some precious but obscure inquiry in which they have neither part nor lot. The important matter is to rid thought of abstractions that are not instrumental to concrete knowledge, and as little to accept our problems ready-made from the schoolmen of the present day as from those of the past. Philosophy, as criticism that is based upon life, has first of all the function of showing the irrationality and illegitimacy of many questions, both contemporary and traditional.

But the mere resolve to occupy one's thought with the concrete is not enough: it is also necessary to proceed to it through criticism, *i.e.*, though a natural dialectic of thought. That way is long and difficult, and is in general the path which the classical systems of philosophy have tried to follow.

On the other hand, I can not help thinking that in some of the present-day movements that advertise themselves as "new" and "scientific" there is plainly marked a tendency to turn away from one form of abstraction in order to take refuge in another. The desire to direct philosophy into more fruitful channels doubtless underlies the effort to assimilate its procedure to that of the special sciences. The traditional form of philosophical inquiry, it is said, is neither logically convincing nor practically fruitful, while contemporary science offers an example of an increase and systematization of positive facts that represent a solid achievement both on account of its certainty and of its service to society. Hence arises the demand that philosophy shall be reformed by the adoption of the scientific method, and made to yield conclusions that are rigidly demonstrable and capable of fruitful application.

Now one may sympathize in large measure with the motives of these reformers without being ready to accept their somewhat pessimistic diagnosis of the condition of philosophy or approving the remedies they propose to employ. That philosophical inquiry should be carried on with systematic thoroughness and with the utmost attention to real facts and willingness to follow where the argument leads, no one would wish to deny. Indeed, only on these terms is philosophy true to its name. But this is not to assert that it must abandon its own problems and procedure and seek for a place among the sciences. Here again I would suggest the possi-

bility that dissatisfaction with historical philosophy has its source in a misunderstanding in regard to the form of intelligibility at which its representatives have aimed. May it not be true that the historical systems seem to certain persons to have little value just because they themselves are interested only in a different type of problem, and that this fact explains why they seem to themselves to have received a stone when they asked for bread?

Apart from religion, there are three consciously directed approaches through which the mind may be said to attempt to render the world familiar to itself—those of science, of philosophy, and of art. In ordinary life these interests are not clearly defined and differentiated, and in every normal individual they are all present and influence each other in some degree. But however intimate their relation in the life of any individual, it is essential that one form of problem should not be confused with another. The form of intelligibility that philosophy seeks, and in some measure attains, is not that of science and not that of art, nor is it any admixture of the two, though it has relations with both. Leaving for the present the nature of art out of account, we may consider some of the fundamental distinctions between scientific and philosophical explanation.

One or two preliminary remarks are, however, necessary to avoid misunderstanding. In the first place, the distinction between these two modes of inquiry does not exclude, but rather provides for, mutual aid and supplementation in practise. The effort to explain the world is a human undertaking and is carried on by human beings, not by the abstractions we sometimes name "the philosopher" and "the scientist." To ensure genuine progress in any field it is necessary that the two forms of inquiry should take note of each other, even that they should interpenetrate each other within the same mind. I have tried at various times to state and illustrate my understanding of necessary connection between them, and of the nature of the dialectic by means of which they are connected. At present I wish to insist that it is only by keeping clear the essential differences that the true relation between them can be understood.

The general question regarding the relations of philosophy and the sciences has, then, many aspects which must at present be left out of account. What I wish to emphasize is that the demands of explanation in the two fields are not identical, and that a complete explanation in one set of terms has no immediate relevancy as an answer to a question raised from the point of view of the other inquiry. The scientific explanation of why Socrates is sitting in prison awaiting the execution of his sentence, stated in terms of the contraction of the muscles of his legs and the revolutions of his bones in the socket joints does not furnish the kind of explanation

that is demanded. What is required is to supply the context in terms of the personality and moral character of Socrates. It is not a mere difference of substituting a teleological for a mechanical explanation, as might appear from the illustration. That the form of philosophical intelligibility always does involve teleology, is, I think, true. Nevertheless it is necessary to carry the matter further since there is a superficial type of teleological explanation that has no claim to the title of philosophy, just as there are causal explanations that can not properly be regarded as scientific.

It may throw additional light upon the question before us to ask what legitimate demand of our intelligence remains unsatisfied after the scientific account is complete. What is still lacking to comprehension? It may be said that the sciences make us familiar with the general framework of reality and furnish a kind of inventory of the different types of things contained therein by exhibiting how they may be thought of as compounded in certain uniform ways of simpler events or elements. The laws expressing the relationships of these elements are at the same time, as Bacon points out, rules by means of which they may be constructed. Now although this type of explanation is indispensable, and may even seem to satisfy all justifiable demands in regard to certain fields of reality, it does not give us any insight regarding the nature of the significant individual things by which we are surrounded and in relation to which we live. On the contrary, it obliterates all real individuality and reduces everything to identical elements or events. It yields knowledge in the form of general concepts that do not directly apply to concrete individual wholes, but to the abstractly simplified relations of ideally defined units.

Now conceivably in the realm of what we call nature it might be possible by substituting poetry and other forms of art to dispense entirely with the philosophical mode of inquiry. I have a friend who sometimes remarks, "I never feel any need of philosophy. When I turn from mathematics I fall back on poetry." That attitude seems comprehensible, as I have said, so far as the realm of outer nature is concerned, though even there I believe it would not be difficult to show that experience involves a relation to actual individual wholes whose nature demands comprehension in intellectual and not merely in imaginative terms. However that may be, it is certainly true that human nature and the world of social and historical life have always formed the central interest of philosophy, and of these the attitude in question simply renounces all critical and coherent knowledge. For the sciences based on the logic of mathematical calculation recognize no individuals and can furnish no insight

into the reciprocal human relations that constitute the social and historical life of man.

What we seek under the name of philosophy is an understanding based on reflective criticism and observation, of the individuals and types of individuals that make up the world we live in. This process of reflection, it is evident, must both presuppose and issue in a knowledge of the self. I know of no better description of philosophy than as the most fully integrated effort of man to establish relations with his world and thus to attain to the familiarity and confidence that come from understanding.

Where shall we look for a realized exemplar of that kind of intelligibility? Philosophy, as Hegel loved to say, can not be real as mere desire for knowledge, but only through recognizing itself as knowledge already implicitly realized. If science does not give us the form of knowledge we seek, where is it actually to be found? In the classical systems of philosophy, doubtless. But it seems to me that a familiar illustration of the kind of insight that constitutes philosophy may be drawn from the understanding that we have of that part of the world with which we are most familiar, such as the circle of the home, or the life of a small community whose members have known each other long and intimately. In such situations the spirit of the whole is comprehended as the common life of which all the individuals partake, and in terms of which their relations to each other seem natural and reasonable. This kind of understanding is of the essence of logic, though it is rarely drawn out into a system of abstract propositions. But at its best it holds within it, as it were in solution, the result of countless observations and analyses, and is thus supported by all kinds of lore—historical, scientific, psychological—constituting a richness of concrete detail that has been harmonized and blended into the form of immediate familiarity. The depth and significance of the immediacy are proportional to the attention and insight that have gone into processes that have led up to it. Such understanding does not come by nature, or through mere unreflective contact, but is the product of accurate observations and of well-disciplined and sympathetic imagination. It is no blind oracle pronouncing ambiguous conclusions, but has its witness within it and is able to supply the context that renders its judgments intelligible. It may accordingly be said that this type of knowledge is philosophical in the degree in which it attains systematic completeness of view in concrete form. It comprehends individuals of different orders in the form of a significant and concrete unity by supplying the context that gives to them the form of a self-subsisting whole.

Objection may, however, be raised against accepting this familiar

type of knowledge as an illustration of the true form of philosophical intelligibility on the ground that the latter must rest upon rigorously demonstrated propositions that command universal consent. Universality and necessity, we have been often told, is the true form of philosophy. There is a truth in that statement, but the philosophical form of universality and necessity is not that which belongs to abstract propositions. Science is a system of abstract propositions, but the demand for this type of demonstration in philosophy rests upon a confusion of ideas. Rigorous logical proof of the type demanded by science is always purchased at the cost of abstraction, as is most clearly illustrated in the case of mathematics; the more complete the abstraction from reality the more compelling is the nature of the formal demonstration. Just because philosophy is occupied with the relations of concrete individuals and systems of individuals, the logic of general propositions can not be its final test or form of truth.

The difficulty is still likely to be urged, however, that what is not expressible in propositions that can be formally demonstrated is but subjective opinion, and can never furnish a common basis for life or society. This would be a serious objection if it were true. But it rests, I think, upon a misunderstanding of the nature of knowledge as a process of systematic concretion, a movement from the abstract to the concrete. In the first place, demonstration of the type described by formal logic has its place and function only within this total process. It always presupposes an objective world of fact upon which the common intelligence of individuals rests. The abstract method can operate only in so far as it is supported by a concrete basis of organized fact. One could infer nothing in a world of mere assumptions. And secondly, in actual reasoning there is always the further question after the formal correctness of a conclusion has been accepted—the question, namely, as to what application it has, *i.e.*, how it enters concretely into the world of reality and modifies or further defines our knowledge of the nature of the individual systems that compose it.

The common experience which forms the basis of a common social life is, even on its intellectual side, wrongly conceived as of the inflexible type suggested by the literal identity of identically formulated propositions. It is comparatively easy to agree upon a common formula; but no matter how carefully the words have been defined in the abstract, the attempt to apply the formula is sure to reveal differences of personal opinion. Such formulas have an important function as instruments in attaining a common understanding, and they serve too as a nucleus about which common feelings grow up. But neither practical life nor philosophy can rest

in such abstract forms of agreement. The conditions of a common life demand differences no less than identity. Without such differences there would be no knowledge, nothing but the dead level of opinion that is without life or movement. If this is true, the objectivity of philosophy is not something guaranteeing a common platform of truth that is once for all defined and demonstrated. It is rather the concrete basis of an understanding developed through the give and take of a common life.

If the logic of philosophy is of the character that I have endeavored to sketch, it is evident that the oft-repeated criticism that it obscures differences and issues in a block universe is based upon a failure to distinguish clearly between its goal and that of the sciences. It is the logic of science that has an eye only for uniformities, while that of philosophy seeks out and maintains differences. The latter, however, does not rest in discrete or isolated points of view; for the principle of individuality when rightly understood leads on to a system of individualities. The individual, that is, just because it is not a mere particular but possesses character or significance, is a member of a world or system of individuals. Everything however depends upon rightly apprehending the nature of the universal that at onces unifies and individualizes its members. That is, neither aspect of the individual reality must be taken apart from the other. If we say that the individual is the synthesis of the particular and the universal, we must remember that these aspects have no meaning apart from each other, they are not elements existing separately out of which we have to compound the individual whole. The universal is not something to be pictured existentially, either as a connecting link, or a common element in different individuals. Philosophy is indeed speculation or seeing, but its light must not be confused with representation in the form of imagery. As reason, *i.e.*, the integral mind in its totality and completest effort after the real thing, it has the form of universality and freedom. That is, it is not bound down and controlled, as in the ordinary routine of practical life, by the first form of particularity and hard isolation, but sees beyond these and comprehends their true reality and significance in terms of its own system of concrete truth.

The conclusion we have reached, then, is that the philosophical form of intelligibility is that of a concrete universal which expresses the inwardness and essence of individuals through the grasp of their constitutive relations. Just because modern science is not concerned with significant individuals, but with abstract aspects taken as bare "existences," its universal is barely conceptual or nominal. A scientific law is regarded as simply a generalized formula or abbreviated record of correlations between certain abstract aspects of real

things. The whole purpose of the inquiry is to obtain a summary form of representing facts so as to afford a convenient and economic means of dealing with them practically. "The existential point of view" is neither that of common-sense nor that of philosophy: it is an artificial simplification which has its own logic and its own justification, adopted and maintained by scientific procedure in accordance with carefully defined assumptions. It may fairly be characterized as an external form of representation, indispensable for its own purposes but as contributing nothing directly to philosophical understanding. Like Descartes's material bodies, scientific phenomena may be said to have no insides. In dealing with them the mind moves, that is, on the plane of external existence and represents or pictures the relations between them in terms of a logic derived from space. The statement said to have been made by the late Lord Kelvin that he could understand a theory only when he was able to represent it in a drawing, illustrates well the point I have in mind. This seems to be the form of intelligibility toward which all the sciences look as their ideal.

But philosophy in its own domain has no concern with the bare form of existence. To achieve the form of intelligibility at which it aims it is indeed necessary that the mind shall understand the truth that is contained in this abstract standpoint, but it has also to free itself from the domination of existential imagery in order to rise to freedom and universality. It is, however, important to note that freedom from imagery is not identical with withdrawal from what is actual and concrete. The real world is the world of significant individual wholes constituted by reflective experience; not that of the superficial and conflicting impressions of practical life.

J. E. CREIGHTON.

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MEASURES OF INTELLIGENCE AND CHARACTER

ONE of the most important questions that arise in connection with the widespread use of the intelligence examination is: What part does intelligence, as measured by such a test as the Army Alpha, play in success in an occupation? The report of the psychological examining in the U. S. Army provides valuable material pertaining to this question. The median intelligence for various occupations is given, together with the range of the middle fifty per cent. (*Mem. Nat. Acad. of Sci.*, 1921, XV, pp. 819 ff.). The range of intelligence within a given occupation is great and the overlapping among the occupations is also great, so that for pur-

poses of vocational guidance the occupations included in the study would have to be classed into about three groups, such as the professional, the clerical and skilled labor, and the labor class. For a finer classification other criteria must be adopted.

Two important indicators might be obtained from such data, namely, the minimum intelligence needed for a given occupation; and that degree of intelligence that one needs in order to be better than the average person engaged in the occupation. The value of this second indicator rests upon the assumption that the greater the intelligence of the individual the greater his success in any occupation. The data do not show whether or not this is the case. If intelligence were the only condition of success, then degree of success might be prophesied from degree of intelligence. But other determining factors must at least be sought.

The views expressed by the fourteen psychologists who recently contributed to a "Symposium on Intelligence" conducted by the *Journal of Educational Psychology* (1921, Vol. 12, Nos. 3, 4, and 5) show the increasing importance which is being attached to the so-called *character* traits. Although, in every case but one, defining intelligence so as to exclude the character traits, a plea was made for recognition of their significance in determining success. Even in college work where intelligence is considered a prime requisite, an important place is being assigned to these traits. The limit of correlation to be expected between an intelligence test and performance in college is probably between $+.60$ and $+.65$. Other conditions of success are physical health, interest, aggressiveness, social qualities, *etc.*, in short what are usually comprised in the term "character traits" (with the possible exception of physical health).

The statement has been made recently that there are certain kinds of work for which the optimum degree of intelligence is not the maximum degree, for example, in the case of messenger boys, sales-clerks and even elementary school teachers; and that to seek for the highest intelligence available may represent misguided effort. Such a view need not imply, I believe, that a low degree of intelligence is in itself really better for a given job than a higher degree of intelligence would be, but rather that one is more likely to find along with a low degree of intelligence those character traits that make for success and satisfaction in certain kinds of work. One might, for example, expect to find the traits that bring success as a scrub-woman or automatic machine tender and leading to satisfaction in these simple forms of manual labor accompanying a low rather than a high intelligence.

The study by Bregman (*Journal of Applied Psychology*, 1921,

V, 127–151) of sales-clerks and clerical workers shows that with a given group of applicants the more successful *sales-clerks* come from those that get a relatively low score in her series of tests; while the more successful *clerical workers* come from the group that gets the relatively high score. That is, these tests show a negative correlation with sales ability and a positive correlation with clerical ability. The tests used to make this distinction between sales-clerks and clerical workers are those commonly used as parts of intelligence tests, such as completion of sentences, tests of information and the various kinds of association tests. When their scores are combined they give somewhat of an intelligence rating. Now, is a relatively low intelligence required for success as a sales-clerk, or does one succeed in spite of low intelligence, because of the presence of other than intelligence traits,—the character traits?

Otis (*Journal of Applied Psychology*, 1920, IV, 339–341) found a zero correlation between success as a mill worker and performance in his intelligence test. He concludes his report thus: "Intelligence is not only not required in a modern silk mill for most operations but may even be a detriment to steady efficient routine work. What qualities are required remains to be sought. Whether they are measurable is doubtful. They may be stolidity, patience, inertia of attention, regularity of habits, *etc.*" The question may be asked: Is intelligence really a detriment in such occupations, or is it merely likely to have accompanying it certain character traits not suited to the task?

If the degree of intelligence possessed by an individual is to be taken as the indicator of the presence of certain desirable or undesirable character traits the correlation between the two must be high. A survey of the available material on the relation between intelligence and character traits shows that the correlation is positive but that it will probably not go higher than + .50. This correlation of + .50 accounts for the fact that one can find desirable character traits in persons of very low intelligence. If the presence of one can not be taken as the sign of the presence of the other, then both must be measured. It is quite important to find out the upper limit as well as the lower limit of intelligence for a given kind of work merely as a matter of economy of intelligence. But the need for simple character tests is just as great or even greater. The rate of labor turnover in certain types of work may well be expected to be greatest among the workers of high intelligence, until a measure of the other necessary traits is used along with the intelligence measure in selecting them. The following quotation from Fernald (*J. of Abnormal Psychology*, 1920, XV, 4 ff.) illus-

trates well the importance of measuring both intelligence and character in vocational work:

"Two adults, sane personalities, may be contrasted. The one, *A*, is a confidential clerk who has forged his employer's signature at least three times. He passes 'adult' intelligence tests with credit. His literary and æsthetic tastes are commendable and his thought mechanisms as discovered by tests and also as discerned in ordinary social and business intercourse are efficient and trustworthy. In conversation he does not justify forgery; but admits it is never justifiable. Yet his love for fast living, fine clothes, automobiles, costly companionship, *etc.*, have occasioned his failure by forgeries executed most skillfully. His knowing, inventing, associative and reasoning capacity is not at fault; but his capacity for resisting, for denying himself gratification and for acting on the promptings of his own good foresight are at fault. His weakness is one of behavior and in the field of character, and is not one of thinking, and so in the field of intelligence.

"The other personality, *B*, is a farm 'chore boy,' an imbecile as determined by intelligence tests (I. Q. 39), whose conduct record is good. He milks cows, carries wood and water, *etc.*, under direction and is in his contracted sphere of activity an economic success. He is well disposed toward his environment and habitually reacts acceptably to stimuli within his comprehension capacity. His weakness is a paucity of knowing. inventing, association, thinking, *etc.*, a failure in the field of intelligence and not in character. The findings of intelligence tests only in these two cases are that *A* is of at least ordinary intelligence while *B* is an imbecile. The findings of character study only are that *A* is legally an offender, an economic parasite and a social menace, while *B* is law abiding, a producer and no menace. Consideration of both fields of inquiry affords a far broader and more illuminating and therefore true basis of comparison than is available from the consideration of either field alone. In fact, conclusions drawn from investigations in either field to the exclusion of the other are misleading."

If measures of both these qualities are necessary for practical purposes, there would be an advantage in having a test that would measure both together—a measure of efficiency or adequacy or competence. Such a test would make unnecessary any sharp distinction between what is intelligence and what is not, and would arouse less criticism when applied in business and industry. The layman can not readily make such a distinction, while his crude inference that the more stupid one is the better he can do a certain job is likely both to arouse opposition and to introduce certain complications into the work of testing. The distinction is probably an arti-

ficial one, anyway, depending upon which of the many definitions of intelligence shall be accepted. In the "Symposium on Intelligence" mentioned above there was at least one psychologist who defined intelligence broadly enough to include what are ordinarily called character traits. Thus Freeman says, "I conceive intelligence to be a somewhat more inclusive capacity than is implied when it is used for a name for our present tests. . . . The mental capacity designated by the term intelligence seems to me to include besides the elements which are usually measured by our tests, certain other types of capacity which they measure not at all. . . . The characteristic which I am referring to is sometimes called temperament or moral character."

Thorndike, in an article on "Intelligence and its Uses" (*Harper's Magazine,* 1920, CXL, 227–235), keeps the layman out of difficulty by speaking of three intelligences that every one possesses, the abstract intelligence, the mechanical intelligence and the social intelligence. This last includes many, if not all, of the so-called character traits. The definition of intelligence as the "capacity for adaptation or adjustment to environment" would seem broad enough also to include the character traits. Fernald, in the article quoted above, suggests that intelligence may vary in *degree,* giving what are called grades of intelligence, and in *quality,* giving what are called character traits.

With some modification of content, method of administration, and with supplementary scoring such a test as the Army Alpha might be made to yield measures of neatness, accuracy, speed of decision, freedom from inertia, assurance, willingness to take a chance, tenacity or perseverance, honesty, *etc.* The total score from such a test would give a measure of efficiency or *competence.* By proper weighting of the different ingredients of the total score, measures could be provided for different occupations. Thus, an occupation for which a low degree of intelligence is adequate, but which requires honesty and steadiness could be measured by the efficiency test with the intelligence components and the character components given suitable weights. The result could be expressed in a total score for the occupation. It would be still more desirable to express the efficiency in the form of a profile, in which each component of the test, *e.g.,* ability to follow instructions, arithmetical ability, ability to work with symbols, range of information, honesty, assurance, *etc.,* could be separately reported and measured against a standard or pattern for any occupation.

Such a combined measure of intelligence and character, if used for vocational purposes, would prevent the waste of high grades of intelligence in positions where it is not needed and would enable

those of low intelligence to be located where their capacity would be adequate and where their character traits would make them successful. There may be many places in our business and industrial system where Fernald's case *B* would fit very well, and where an individual of a much higher intelligence might find the monotony intolerable. To refuse an occupation in business and industry to all persons with an intelligence under seventy per cent. of normal without examination of their character qualities may some time appear to be one of the greatest of human and economic wastes. In the individual of low intelligence but stable character qualities, may lie a partial remedy for the restlessness induced by extreme specialization and automaticity of work.

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THE WORD INTEGRATION AND A FEW REMARKS ON THE PALEONTOLOGY OF WORDS

TWO correspondents, Professors Wilmon H. Sheldon of Yale University, and W. A. Merrill of the University of California, have written me that "integration" has nothing to do with *gradior*, as I assumed it to have in my article "The Need of a New English Word to Express Relation in Living Nature." (This JOURNAL, August 18, 1921.) And since Merrill is a Latinist by profession, there seems nothing for me to do but to admit that at least I was "wrongly advised" as he considerately puts it. What makes the error the more troublesome to me is the fact that I do not remember the source of my advice, nor, so far, am I able to relocate it.

Professor Merrill also informs me that while the Latin *ferre* sometimes means, as I stated, bearing in the sense of producing, the producing is not the kind I meant. It never means producing in the sense of biological reproducing, I understand him to mean. It appears, consequently, that the etymological part of my effort to justify conferentiation as the new word of which our language is in need, was quite unfortunate.

It is, however, a satisfaction to be told by Professor Merrill that he sees no objection to the word I propose if I think it is needed; for, he says, "The etymology is of no importance, as no one thinks of an automobile as a self-mover."

Perhaps, then, I ought to be sorry that in this instance I did not follow, as according to my rule I should have done, the familiar advice Mr. Lincoln is said to have given in a lecture to law students: Never try to prove anything you do not have to, because you may thereby be driven into trying to prove something you can't.

But there is an aspect of the use of words which goes much deeper

than the question of the appropriateness of old words adapted to new needs. That is the question of the origin of new words. Their origin I mean, not in the linguistic sense, but in the psycho-biological sense; the sense, to wit, of the mental and physical needs to which the words correspond.

The word integration illustrates the point as well as any other. In defining this word the dictionaries note, of course, its relation to *integrare* and then to *integer*. And the verb integrate, it is usually mentioned, is related to the past participle *integratus*. *Integer* means whole or undivided, in the sense of being untouched or unhurt. And *integrare* means to renew or restore; and the participle *integratus* means renewed or restored.

Now in order that a thing may be untouched or unhurt, somebody or something which might touch or hurt the thing is clearly implied. A toucher or hurter is somewhere near by. Likewise a restoration necessarily implies somebody or something to do the restoring. The point is that integration relates to something being done, to an action—it implies a doer, an actor.

This reasoning is, I suppose, about the same that a philologist is likely to use in treating of the nature of words. But here comes in a consideration which, though of great interest to the student of human psycho-biology, does not, so far as I know, appeal greatly to philologists or at least to linguists. I refer to the usefulness of words in the sense of biological adaptation.

So far as I have noticed, when the linguist speaks of the use of words he has in mind the way they are put together to make spoken and written language, it being taken for granted that language is the human way of expressing ideas, feelings, *etc.* But to the modern biological naturalist, that is to say the naturalist whose hold upon the present-day conception of the nature and origin of the living world reaches clear through and all around the conception, words are among the innumerable agencies devised by the human creature to aid him in his stupendous task of maintaining himself upon the earth in progress and happiness. Words, and especially written words, are vital utilities to man, just as nests are vital utilities to birds. But just wherein is this utility of words—the original and primeval utility, I mean? In enabling men the more securely and clearly to fix in their minds, and the more easily to communicate with one another, the ideas engendered in their minds through their experiences with nature round about them. Viewed thus the verbal remains of extinct languages are as revelatory of the remote past of the human mind as the skeletal remains of extinct races and species are of the remote past of the human body.

Now as to the facts of nature upon which rest the ideas expressed

by the word integer and its kindred. It is the verbal forms, *integrare* and integrate, that are specially interesting from the standpoint of what I wrote about in my article.

Everybody knows to some extent, but only the naturalist knows systematically and profoundly, that there are two very distinct ways in which things are restored or made whole, these depending upon who or what the restorer or whole-maker is, and upon how the job is done. One of these ways is that of man working with his hands under the guidance of his mind; the other is that of nature working with the innumerable means at its disposal.

I have tried in another place (*The Probable Infinity of Nature and Life,* p. 33) to bring out this distinction between the creations of nature and art, in substance as follows: The human being has two ways of creating things. One way is by the use of its hands and brain. The other is by the use of its generative organs. The first way produces statues and paintings of other human beings. The second produces real other such beings. And by no possibility can the one way be substituted for the other.

Men restore automobile tires by half-soling them; and they make whole pumps and houses by manufacturing the parts and then assembling these and putting them together properly. Nature restores the humidity of the atmosphere by bringing into it in a finely divided state, water from the sea; and she makes whole crystals of salt in saturated solutions. But restoration and whole-making by these methods are far from all the methods by which restorations and whole-makings are accomplished. For nature restores worn muscles and brains by the assimilation of nourishment, and it restores branches of trees and tails of lizards when these have been lost by accident or otherwise. Further she makes whole new oaks out of acorns and whole new roosters out of hens' eggs.

These last-mentioned ways of restoring and whole-making biological naturalists have studied deeply and broadly, especially during late decades. And beyond question one of the most important results of their studies has been to make more definite and penetrating than before man's perception of the difference between living nature's way of restoring and whole-making and, on the one hand, not-living nature's way of doing these things, and on the other hand, man's way of doing them.

It is, apparently, just because we moderns have perceived these differences so much more clearly than the peoples from whom we have largely adopted and adapted our language perceived them, that we find involved there an idea requiring for its expression some such newly adapted word as conferentiation.

Professor Merrill makes a remark in his letter which indicates,

I believe, not only how far our predecessors had gone toward such perception, but also how much they fell short of the distance later generations have gone in the same direction. "The thought is common in ancient philosophy," he writes, "of breaking up the whole into parts and recombining them into something else—also whole, but a new one. Thus Lucretius (iii, 847) says that if the matter of our bodies were to be recollected again it would mean nothing because the chain of consciousness would be broken."

From the passage of *The Nature of Things* here referred to, and from others that could be pointed out, it seems to me clear that while Lucretius perceived distinctly enough the uniqueness of living bodies as contrasted with the elements of which they are composed, he perceived very dimly if at all the essentially transformative processes involved in organic genesis. Lucretius was, I think, far behind Aristotle in this. But even Aristotle knew, of course, only in the most crude and general way, the commonplace facts with us moderns of metabolism, growth, and development.

If Professor Merrill is right, as I do not doubt he is, in saying that *ferre* has no reference to production in the sense of organic genesis, then even differentation is really outside the pale of living nature so far as etymology is concerned. "Arguing from the Latin directly," he says, "I should say that differentiate means to take apart . . . with an accessory notion of 'carrying away.'" According to this the actor, the taker-apart, would seem to be man acting with hands and brain. It would be man in his rôle as artist or artisan. And only by adaptive modification could the word be made to express the *diversification* which characterizes organic development. However, differentiation has been used and the use has become universal, in the terminology of organic genesis. By adaptative modification it has become thoroughly naturalized in the realm of living things. To this there is not, as I understand, the slightest objection.

By parallel reasoning conferentiation could be naturalized in the same realm to express the *unification* which characterizes organic development. And the biological importance of providing differentiation with its natural organic mate, is that the effort which has been widely made of late to pair differentiation off with integration is resulting in ideas that are not only confused but are genuinely harmful, owing to the fact that integration is already bound to disintegration as its natural inorganic mate.

One practical consequence of the general employment of integration in this inconsistent and inorganic sense, I tried to bring out in my essay. That consequence is the deterring effect such use has upon perceiving the real nature of the action of bodies or of parts

of bodies on one another in order to make the resultant new body truly organic or living. This action is so deeply reciprocal that (quoting) "while producing determinative change in [each of] the bodies, at the same time [it] leaves the individuality of these not only identifiable and unimpaired, but even improved relative to their former states." The sentence from which this is quoted begins "It is that relational action in living bodies which, while producing" *etc.* (as above).

It now seems to me that instead of conceiving this "relational action" as operating "*in* living bodies," as though it were merely an incident to such bodies, we must conceive it to be of the very deepest nature of these bodies. Except for this peculiar reciprocal action apparently no body could possess any of the attributes of life.

I wish now to invite attention to another injurious effect almost sure to result from a general use of integration as the linguistic mate of differentiation. Since integration has long been generally accepted as the antithetic mate of disintegration, the common utilization of it in the terminology of human affairs would almost inevitably tend to set it in opposition to differentiation in the sense of inhibiting it. Or, otherwise stated, since all differentiation involves change, the tendency would be to make the principle of integration act as an inhibitor of any change. With the conservative type of mind, the idea of integration could easily become a new and powerful brake upon the wheels of human progress, since it would be the most natural thing in the world for such minds to believe any change whatever that did not chance to be to their personal liking, to portend disintegration rather than progress.

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BOOK REVIEWS

Russian Dissenters. FREDERICK C. CONYBEARE. Cambridge: Harvard University Press. 1921. Pp. 370.

Perhaps no group of Christian believers are more deserving of study for their psychology and their rites than are the Russian dissenters. Few indeed are the religions of Western Europe or America that are as picturesque or as removed from the common thought of the world. Yet it may be added that few considerable numbers of Christians have ever received less attention at home or abroad. Hitherto in English the chief source has been the descriptive account of them in M. Leroy-Beaulieu's *Empire of the Tsars and Russians*, and for this reason we welcome the closely historical treatment of Professor Conybeare.

Although the author modestly states that his work is a compilation, yet we can not help feeling that his knowledge of Bogomilism and the allied cults has enabled him to present admirably the striking similarities between these and the Russian sectarians. It is the more remarkable, therefore, that the book does not discuss the possible direct contacts between Russia and the Bogomils in the early centuries and the first organized antiecclesiastical organization of Russia, the sect of the Strigolniks which appeared in Pskov in the fourteenth century. Similarly we miss any description of the Judaizers, who were able to place on the metropolitan see of Holy Russia in 1493 a man who was almost a convert to the Jewish faith. We should also like to know the opinion of Professor Conybeare on the Armenian Martin whom later stories (probably apocryphal) regarded as the originator of the rites of the Old Believers.

Unfortunately the righteous indignation of the author at the stupid and tyrannical government of the Tsar has led him to be unjust to the Orthodox Church. He rightly emphasizes the dislike and the dismay with which the peasants greeted the centralizing policy of Moscow. He does not emphasize the cause of that policy. To him the Tartar invasion means that a savage people had wiped from the earth a peaceful and developing native civilization (p. 26). This has been a popular idea since the World War and the Russian Revolution. Centuries of bloody Civil War in Russia which culminated in the sack of Kiev in 1169 and the accounts of the old Russian slave trade luridly deny that the source of all evil lay in the autocracy. It may well be argued that it was only the policy of autocracy, bribery and servility inaugurated by Moscow with the blessing of the Church that succeeded in unifying Russia and saving Moscow from that permanent foreign control which ruined Kievan Russia for centuries. The Troublous Times and the occupation of the Kremlin by Poland in 1610 again brought Russia to the verge of ruin and rendered necessary the changes of the century, although the unhappy country did not have the trained leaders to undertake the work.

In the rough manner of his time Nikon endeavored to carry out needed reforms. If we read the virulent denunciation of the Patriarch on p. 19 and the criticism of his reforms on p. 42, we notice a contrast. Nikon fought to free the clergy from a humiliating position as the slave of the mir. He fought against a narrow nationalism which hated the Latins, loathed the Kievan monks and despised the Greeks. Avvakum and his followers were far less concerned that Nikon used a poor Greek manuscript than that he used a Greek manuscript at all. One of the chief problems was the decrees of the

Stoglav Council. This supported the contention of the nationalists, but is it "monstrously critical" for the Orthodox to doubt the validity of decrees passed in 1551 and invoked for the first time in 1642? The innovations of the Old Believers probably arose in the fifteenth and sixteenth centuries. It is hard to see how they could have originated during the period when all the higher ecclesiastics were themselves Greek, and the Church was absolutely an exotic growth (p. 3).

The same unwillingness to recognize anything but might as on the side of the Orthodox is a sad blemish on the entire work. The "jaundiced narrative" of Ivanovski (p. 115) denies the moral excellences of the thief and forger Bishop Epiphanius. The four bishops who succeeded him were so obviously of an unsatisfactory character that the author forbears to mention them.

The author has gone too far in his endeavor to deny or defend suicide by fire. The teachings of Avvakum (quoted in Anderson, *Raskol and the Sects,* p. 130) recommend it. The stikh of the Woman Alleluia ascribed this teaching to Christ himself (Porfirev, *History of Russian Literature,* Vol. I, p. 355). Finally M. Leroy-Beaulieu cites a number of modern instances (*op. cit.,* Vol. III, p. 320). It would be interesting to explain the purpose of Ivanov in starting one holocaust after another (p. 154). It is more reasonable to assume that he was seeking to make martyrs of his disciples or dupes.

The chapter on marriage is very full but again the author's enthusiasm for the sectarians leads him to veil in many words what may seem to be an unpleasant condition. The key to the entire question is to be found on p. 193. "The 'marriageless' sectary may not approve of unions concluded for the whole of life, but find it a burden. He aspires to another type of conjugal relationship, a type which more nearly approximates to the ancient Slavonic free union, dissoluble by the will of either party. He has scanty regard for the Byzantine type of family which has only gained currency in Russia during the last few centuries." Nestor and the early chroniclers declared that the early pagan Slavs practised free love and had no conception of family life. The Orthodox sacrament of matrimony and the life-long monogamy seem to have been inseparably connected in the minds of the Russians and the loss of one necessarily destroyed the other. Certain of the sectarians were able to develop the old-fashioned Protestant conception of marriage and were able to bring order into their life. Others endeavored to satisfy their consciences in various ways and we learn that many of the Raskol were living in relationships which even their own code would not approve (p. 209). These relationships were tolerated and we need only mention the

demoralizing influence of such manners. What part does this play in the rumors of various marriage innovations since the Russian Revolution?

Turning to the second part of the work, we note with regret that Professor Conybeare did not make use of the recent work of Bonch-Bruyevich, *Materials for the History and Study of the Russian Sects and Raskol.* In this there is published a large collection of the songs of the Dukhobortsy. We may add that many of the scholars of Russian religion, such as Vladimir Anderson, group the Dukhobortsy together with the Khlysty, and many of their documents, edited by Bonch-Bruyevich, testify to their belief in this similarity. They are certainly more closely related than are the Dukhobortsy and the Stundists. Finally Professor Conybeare does not mention the spiritual dynasty of the Dukhobortsy, one of their chief characteristics. Aylmer Maude in his work, *A Peculiar People,* describes in detail the *via dolorosa* leading to the emigration to Canada. He also reveals his disgust at the trickery of Tchertkoff and the leaders of the Dukhobortsy toward those who were helping the poor Russians. This omission relieves the author of mentioning the naked pilgrimages and other events[1] which present the "true soul of the Russian peasant" in a less favorable light.

The account of the Mystical Sects could also be improved by the use of the work of Bonch-Bruyevich. Their denial of the unique deity of Christ gains for them a certain amount of approval, though we should like to hear more of the succession of Christs among them. Professor Conybeare mildly remarks that some of their Christs may impose upon their followers (p. 343), but he really disapproves of no sectarian save the "obscene fanatic" Selivanov. This man was once a member of the Khlysty or "People of God" as they prefer to be called, and the violence of the Skoptsy can easily be interpreted as a reaction from unrestrained license in the parent sect. In this connection we may mention the career of Shchetinin. This man (the subject of a long study by Bonch-Bruyevich) founded the sect of the Chemreki, which was an acknowledged branch of the Khlyst movement. He openly preached religious immorality and maintained his position for some years. There have been many similar teachers, notably the famous Rasputin, who operated in Russian court circles. Apologists for the sectarians have usually denied that these men represented any element of the Khlysty, but in such a case they should group them as representative of a certain tendency perhaps connected with the Slavonic free union.

[1] The most recent of these was a threat by the God-man, Peter Verigin, to kill all the children of the community as a protest against the Canadian government. (*New York Times,* February 21, 1922.)

The author again has not sufficiently emphasized the importance which mystic anarchy has had on the entire movement. Most of the sects which have been opposed to the government of the Tsar were opposed not because it was autocratic, but because it was a government. The refusal of military service, the refusal of the oath of allegiance, the refusal to pay taxes, all recur with monotonous regularity in the accounts of these sects. The World War brought them to the attention of this Government (see the article of Dean Stone in the *Columbia University Quarterly,* Vol. XXI, p. 263). Their opposition to secular government does not render them opposed to autocratic rule by their Christ-ruler, and in the course of time it will probably be seen that these sects are less of a trouble in an autocracy than in any form of democracy.

We may well compare the Russian sectarian movements to a sea with certain main currents. On the surface of these currents are various waves which rise and fall in constant changing struggle. These waves are the individual sects. None of them has ever formulated any definite code; none of them, save the Austrian Hierarchy of the Popovtsy, has maintained a clear and distinct history similar to that of the leading Protestant sects of Western Europe. Most of them form sympathetic but disorganized groups with no external discipline and any movement is liable in different places to produce all types of leaders, from the pious efficiency of Denisov to the savagery of Selivanov. For this reason it is as impossible to approve their principles as a movement as it is to condemn their excesses as a sign of general decadence.

In conclusion we may say that the book would have been far more valuable had the author not been so animated with the belief that it is "the heretics and dissenters [of both hemispheres] who will point the way [to unity] and by their example shame formalists into true charity" (p. 258). He has brought together a great mass of valuable material, but his constant tendency to champion the cause of the dissenter and to omit or deny any aspects which do not prejudice us in his favor weakens the book. The reader should most certainly supplement this work with that of M. Leroy-Beaulieu, who has described the defects of the Orthodox Church of Russia no less severely, but has endeavored at the same time to write impartially of the different sectarian movements and to evaluate their real significance for Russia and civilization.

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Bibliotheca Chemico-Mathematica: A Catalogue of works in many tongues on Exact and Applied Science, With a Subject Index. Compiled and annotated by H. Z. and H. C. S. 2 Vols. London: Henry Sotheran and Co. 1921. Pp. 964.

These two volumes are made up of three booksellers' catalogues and an index. They form, however, one of the most available bibliographies of the history of modern science. In each of the three catalogues the authors are arranged in alphabetic order, and naturally a great many of the books entered are of little general interest. But the full and elaborate index, giving also the dates of the different works referred to, is a highly useful key to any one interested in the history of science. As is to be expected under the circumstances, the collection is very uneven as regards completeness. Thus there are no entries on Brownian movement, on the theory of quanta or on the algebra of logic, and almost nothing on statistical methods. Even when the bibliography is rather full as in theoretic physics, some of the very great and epoch-making treatises, like that of Bocovich which united the work of Newton and Leibniz, are missing. On other topics, however, such as the history of alchemy, the modern theory of solutions, or the history and theory of electricity, the lists are more adequate.

The many annotations to the titles, giving biographic and historical information, are as a rule rather interesting and lively. "The pioneers of science have never been of the dry as dust order." Students of philosophy may be surprised to learn that the common sense realism of Reid was originated by D. Abercrombie's *Academia Scientarum* or History of Natural Sciences, 1687; and it is instructive to learn that the authorship of a book on the *Varieties and Uncertainties of Artes and Sciences* landed Agrippa von Nettesheim in prison. As these annotations are generally based on secondary sources, some of them are rather misleading. Thus it is not true that the phlogiston theory retarded the progress of science. Like other false hypotheses it led to a great deal of new investigation and hence to the progress of science.

Perhaps the most interesting feature of these two volumes is the large number of plates giving portraits of the greatest of the scientists and facsimiles of the actual texts of the older books. The most cursory examination of these illustrations will give one an extraordinarily vivid sense of the intellectual vitality of previous centuries, and dispell the fashionable but foolish idea that before Darwin or Newton the world dwelt in utter scientific darkness.

The annotators, H. Zeitlinger and H. C. Sotheran, have not always made the most of their opportunities. I am tempted to give two instances. Colenso's *Algebra* is entered without noting that it

is by the same Bishop Colenso who upset the old biblical theology in England by his book on the Pentateuch in which his mathematical reasoning created great distress for those who regarded every story in the Bible as literally true. Colenso thus lost his bishopric on account of his mathematical proclivities. The second case is the entry of W. Carpenter's pamphlet on, *Water not Convex, the Earth not a Globe,* 1871. This is part of a famous law-suit. A wager having been made that the convexity of the earth could not be proved, Alfred Russell Wallace proceeded to do so with optical instruments on the water-level of a canal. The loser of the wager, however, refused to pay the bet. W. Carpenter was the dissenting referee, and his pamphlet illustrates how hard it is for experimental evidence to prevail over general convictions.

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JOURNALS AND NEW BOOKS

JOURNAL OF EDUCATIONAL PSYCHOLOGY. September, 1921. *An Experimental and Statistical Study of Reading and Reading Tests:* ARTHUR I. GATES (303–314).–First of three installments. Conclusions and summary in the November issue. *Constancy of the Stanford-Binet I. Q. as shown by Retests:* HAROLD RUGG and CECILE COLLOTON (315–322).–An examination of the reports of Terman, Cuneo, Garrison, Poull, Wallin, Fermon and Stenquist was made. The conclusion drawn is that "much confidence can be put on a single I. Q. if the examination is made by experienced and well-trained examiners who use rigorously the standardized procedure for giving the test." Recent studies, except those of Fermon and Stenquist, closely confirm Terman in his earlier statements. The comparison of the findings of Fermon and Stenquist with those of other studies throws great doubt on the validity of the examining which was done by their workers. *Constancy of I. Q. in Mental Defectives, according to the Stanford Revision of Binet Tests:* LOUISE E. POULL (323–324).–126 inmates of the Children's Hospital on Randall's Island, New York City, were retested. The interval between the first and second tests varied from six months to three years; age of subjects from 4 to 28 years; the I. Q. of the first test varied from 20 to 90. The subjects as a group did not deteriorate, the average change was an increase of + 1.28. The question of the constancy of I. Q. is not settled. A large percentage of the cases shows variations which operate to change the classification and in cases above the obvious imbecile type, only observation and retesting can discover

the individuals who require permanent supervision or institutional care. *Mental growth and the I. Q.:* LEWIS M. TERMAN (325–341).– The work of Dr. Doll is examined. "His own conclusions are so often either contrary to his facts or else irrelevant to them that verification is always necessary." The article is continued in the October issue. *Department for Discussion of Research Problems. Notes on Articles in Educational Psychology in Current issues of other Magazines. Special Review of Mrs. Burgess's Monograph on Silent Reading. New Publications in Educational Psychology and Related Fields of Education.*

Root, William T., Jr. A Socio-Psychological Study of Fifty-three Supernormal Children. (Psychological Monographs, Vol. XXIX, No. 4.) Princeton, N. J.: Psychological Review Co. 1921. Pp. 134.

Spiller, G. A New System of Scientific Procedure: Being an Attempt to Ascertain, Develop, and Systematise the General Methods Employed in Modern Enquiries at Their Best. London: Watts & Co. 1921. Pp. 441.

NOTES AND NEWS

To the Members of the American Philosophical Association, Eastern Division:

At its Annual Meeting, December 30, 1921, the American Philosophical Association (Eastern Division) appropriated a considerable part of its available funds for literary aid to European universities and scholars. The vote on the resolution was unanimous. The great need for books and journals on the part of foreign scholars impoverished by the war and its consequences impressed the Association when it was brought to the attention of the Meeting. From the editors among its membership it learned also of the many requests from abroad for gifts of current journals—requests which the several reviews have often met, but which as a whole their resources do not allow them to satisfy. Finally, it was felt that this was a form of international coöperation which all could approve.

The Association appropriated two hundred dollars—one third of its balance—for this purpose. In the discussion of the motion, the hope was also expressed that additional gifts of money or books might be received from individuals. The management of the fund was entrusted to the Committee on International Coöperation, which met immediately and appointed Professors Woodbridge and Cohen a sub-committee to take direct charge of the work. Arrangements

have now been perfected for the forwarding and distribution, without cost, of whatever we may be able to give. It is very desirable that any of our members who feel able to contribute, or to spare books or journals from their libraries, should communicate with the sub-committee so soon as may be convenient. In particular, it is desired to collect works representative of the more recent phases of American thought. In case of doubt, the sub-committee will be glad to answer concerning the suitableness of any suggested donations. Checks may be drawn, and books forwarded to Professor Frederick J. E. Woodbridge, Columbia University, New York City, New York.

A. C. ARMSTRONG, *Chairman*,
FREDERICK J. E. WOODBRIDGE,
MORRIS R. COHEN.

To the Editors of the JOURNAL OF PHILOSOPHY:

In the interest of the freedom of discussion so essential to philosophy, I wish to protest most respectfully against the position of Dr. Parkhurst's animadversions on the paper I read before the American Philosophical Association. To question the evidence for that which is generally taken for granted is surely one of the functions of a philosopher, and this I tried to do to the best of my ability in reference to the popular belief in universal evolution, in the subconscious mind, and in induction as the essence of scientific method (I was very careful to discriminate, as Dr. Parkhurst does not, between universal evolution and Darwinian natural selection). If my questionings are based on ignorance or misapprehension, Dr. Parkhurst and other friends of these doctrines can readily correct me and thus render a great service to science by guarding others against similar errors. But to ignore my actual arguments and to deplore them "chiefly for the improper use to which they might be put" by obscurantists in Kentucky or in a New York newspaper, seems to me to introduce or revive a most unwarranted and dangerous restraint on the freedom of philosophic discussion. Surely the danger from misuse by temporarily popular obscurantists (and what utterance of man is guaranteed against such misuse?) is much less serious than the danger from philosophers suppressing their opinions, even before their colleagues, lest obscurantists misuse such expression. Would not such a policy be itself literally the veriest obscurantism?

Similarly, because philosophy has nothing to gain by introducing into its discussions the passionate intolerances of the marketplace, it seems to me unfortunate to have philosophic papers characterized in moral terms such as "cynical," *etc.* In view of the uncontradicted

agreement (expressed by Prof. Pratt) which my paper received at its reading, a reasonable respect for our fellow-philosophers' power to express their dissent makes it doubful whether many besides Dr. Parkhurst felt a disapproval so intense that "nothing short of a pitched battle would have promised satisfaction." But in any case the interest of philosophic clarity would have been better served by refuting rather than merely condemning my contentions.

Finally, Dr. Parkhurst sets up the authority of Prof. Bateson. Bateson is undoubtedly a great authority on biologic variation, but not on philosophic discussion. In any case I may retort that it is possible to have faith in experimental science and have little use for the concept of evolution—witness the work of our leading experimental biologist, Jacques Loeb, whose condemnation of the scientific use of the concept of evolution is much more drastic than anything I ventured to say. I might similarly cite the position of our leading anthropologist, Professor Boas, with reference to social evolution.

It is too bad that we live in a world in which the advanced scientific thought of sixty years ago has not yet penetrated to some of the multitude. But we must not suddenly become panicky on account of this, and limit our own freedom of thought and expression and prevent intellectual progress. Whatever the Mosaic cosmology may be to the multitude, it is undoubtedly a myth to most philosophers. But the refusal of philosophers to recognize the mythical character of popular doctrine of universal evolution, has led to unjustifiable dogmatism by dulling the critical edge of the sense for evidence. Dr. Parkhurst may call this view skepticism or even obscurantism, but I see no reason for making it esoteric.

Respectfully yours,

MORRIS R. COHEN

The New York Branch of the American Psychological Association met on Monday, April 24, in Schermerhorn Hall, Columbia University. The following papers were read:

Dr. F. Lyman Wells: *A Method of Memory Examination adapted to Psychotic Cases.*

Dr. Beardsley Ruml: *Notes on Applied Psychology.*

Dr. Clara F. Chassell: *A Test of Ability to Weigh Foreseen Social Consequences.*

A meeting of the Aristotelian Society was held on March 20, 1922, Professor G. Dawes Hicks in the Chair. Professor R. F. A. Hoernlé read a paper on "Some Byways of the Theory of Knowledge," a synopsis of which follows:

In the attempt to give scientific precision to their language, some philosophers have introduced into the theory of knowledge a new distinction, *viz.*, the distinction between *first-hand* knowledge and *second-hand* knowledge (or knowledge mediated by symbols), alongside of the current distinctions between "knowledge by acquaintance" and "knowledge by description," or "immediate acquaintance" and "thought." Acquaintance and immediate of language and of analysis, whereas first-hand knowledge (*e.g.*, that experience are, in current theory, commonly characterized by absence of a botanist engaged in research) may involve any amount of analysis and symbols of all sorts. Yet there will be no divorce of description from acquaintance, or of thought from immediate data, but the data will be ordered and will acquire significance, and their meaning will come to the investigator as fulfilled and realized in a sense in which it can not do to one who merely reads his account at second-hand. The choice of terminology is no mere matter of words, for it is a choice of meanings, and therefore of the qualities and relations which we affirm as "true" and "real" of the object under discussion. Definition does not help, for it leaves open the question whether anything bearing the character defined exists. The suggestion was made that a comparative and systematic study of philosophical languages is much to be desired, as a preliminary to rational choice, and, in any case, as a help to better mutual understanding.

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